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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,185

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David Luo

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EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

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DELIVERY MODE

08/23/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,185	Applicant(s) LUO, DAVID	
	Examiner SEOKYUN MOON	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-28, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-28 and 37-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/11/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. The Applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based on applications filed in France on February 11, 2004, September 6, 2004, and October 6, 2004 have been acknowledged. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on August 11, 2006 has been acknowledged and considered by Examiner. A copy of the form PTO-1449 is included in this correspondence.

Claim Objections

3. **Claim 23** is objected to because of the following informalities:

Typographical Error, "a said filter"

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 21-26, 28, and 37-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP Publication No. 1962-1636 by Maeda in view of U.S. Patent No. 4,551,717 by Dreher.

As to **claim 21**, Maeda teaches a display [fig. 1 and pg 1], comprising:

a plurality of superposed filters [fig. 2, "transparent display plates 1 and 4"] each corresponding to a value of a physical characteristic of the light (As explained in pg 4 of the specification, the display plates allow light of a certain color/spectrum to pass through the display plates while they block light of another color/spectrum.) and to a message to be displayed on the display [fig. 2, "A" and "B"]; and

a light source [fig. 2, the combination of "bulbs 7 and 8"] adapted to light up, by backlighting, the superposed filters of the display;

a modulator [pg 4 and fig. 2, the combination of the means for supplying power to the "bulbs 7 and 8 and the means for switching the operation of the "bulbs 7 and 8"] for modulating at least one physical characteristics of the light source, adapted to modulate at least one value of the physical characteristics of the light emitted by the light source, to make visible a message placed on the filter of the display; and

a reception device [pg 4, the means for controlling the means for switching], which is adapted to assign different symbols to signals, in line with a switching carried out by a switching means [pg 4, the means for switching the operation of the "bulbs 7 and 8"].

Maeda teaches that the plurality of superposed filters, the light source, the modulator, and the reception device are included in the display, as discussed above.

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Maeda does not teach that the plurality of superposed filters, the light source, the modulator, and the reception device are included in at least one key of a keyboard.

However, Dreher teaches the concept of including a display in at least one key of a keyboard [col. 1 lines 6-9 and 46-52], wherein the at least one key has a contactor [fig. 2, “switch 20”] adapted to supply a signal representative of an interaction between a user and the key [col. 2 lines 52-57] and a reception device [fig. 3, “microcircuit 30”] receiving signals from the contactor and assigning different symbols to the signals [col. 3 lines 10-17].

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the display of Maeda in at least one key of a keyboard, wherein the at least one key has a contactor adapted to supply a signal representative of an interaction between a user and the key and the reception device receiving signals from the contactor and assigning different symbols to the signals, as taught by Dreher, in order to allow the at least one key to display different symbols without using a liquid crystal display.

As to **claim 22**, Maeda as modified by Dreher teaches that each filter [Maeda: fig. 2, “transparent display plates 1 and 4”] is made up of a transparent or translucent medium having the message [Maeda: figs. 3 and 4, “A” and “B”] printed thereon.

As to **claim 23**, Maeda as modified by Dreher teaches that the light source is adapted to light up jointly, by backlighting, a plurality of keys and the superposed filters thereof, and wherein the modulator of at least one physical characteristic of the light source is adapted to modulate at least one value of the physical characteristic of the light emitted by the light source and received by a plurality of keys, in order to jointly make visible the messages placed on the filter of each the key [Maeda: pg 4].

As to **claim 24**, Maeda as modified by Dreher teaches that each filter [Maeda: fig. 2, “transparent display plates 1 and 4”] has transparent areas and areas with absorption spectra [Maeda: pg 4, the area absorbing the light having the light spectrum different from the light spectrum of the area] respectively corresponding substantially to emission spectra of the light source, for different modulation values of the modulator.

As to **claim 25**, Maeda as modified by Dreher teaches that each of the keys comprises at least two superposed filters [Maeda: fig. 2, “transparent display plates 1 and 4”], the filters having transparent areas and areas [Maeda: pg 4, the area absorbing the light having the light spectrum different from the light spectrum of the area] with absorption spectra respectively corresponding substantially to emission spectra of the light source, for at least two modulation values of the modulator.

Maeda as modified by Dreher does not teach that each of the keys comprises at least three superposed filters.

However, the courts have held that a mere duplication of the components of the device is generally recognized as being within the level of ordinary skill in the art. *St. Regis Paper Co. v. Bemis Co. Inc.*, 193 USPQ 8, 11 (7TH Cir. 1977).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the key of Maeda as modified by Dreher to superpose additional filters on top of the filters of Maeda as modified by Dreher, in order to allow the key to display more than two symbols.

As to **claim 26**, Maeda as modified by Dreher teaches that the modulator [Maeda: pg 4 and fig. 2, the combination of the means for supplying power to the “bulbs 7 and 8 and the

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means for switching the operation of the "bulbs 7 and 8"] is adapted to modify a spectral band of light reaching the filters and the filters provide spectral bands of different transparency (As explained in page 4 of the specification of Maeda, each of "display transparent plates 1 and 4" allow light having certain light spectrum to pass through the plates and block the light having different light spectrum.).

As to **claim 28**, Maeda as modified by Dreher teaches that the light source comprises at least two independent electro-optical transducers [Maeda: fig. 2, the combination of "bulbs 7 and 8"] placed on an optical path of light rays from the light source to the key, and the modulator [Maeda: pg 4 and fig. 2, the combination of the means for supplying power to the "bulbs 7 and 8 and the means for switching the operation of the "bulbs 7 and 8"] is adapted to control alternately the light emission by either one of the electro-optical transducers.

Maeda as modified by Dreher does not expressly teach the two independent electro-optical transducers being placed in parallel.

However, the courts have held that a mere rearrangement of the components of a device is generally recognized as being within the level of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the electro-optical transducers of Maeda as modified by Dreher to be placed in parallel, in order to allow the light emitted by the electro-optical transducers to pass through the transparent display plates perpendicularly and thus to provide an uniform brightness on the display.

As to **claim 37**, Maeda as modified by Dreher teaches that the key is integrated with a keyboard [Dreher: col. 1 lines 6-9].

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Maeda as modified by Dreher does not expressly teach the keyboard being used in a portable computer.

However, Examiner takes Official Notice that it is well known in the art to include a keyboard in portable computer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the plurality of keys of Maeda as modified by Dreher as the inputting means of a portable computer, in order to provide a portable computer having keys configured to display different symbols.

As to **claim 38**, Maeda teaches a display method, which comprises the following method steps:

switching a light source [fig. 2, "bulbs 7 and 8"] adapted to light up, by backlighting, at least one display, the display including:

at least two superposed filters [fig. 2, "transparent display plates 1 and 4"] each filter corresponding to a value of a physical characteristic of the light (As explained in pg 4 of the specification, the display plates allow light of a certain color/spectrum to pass through the display plates while they block light of another color/spectrum.) and to a message to be displayed on the display [fig. 2, "A" and "B"]; and

modulating at least one value of the physical characteristics of the light emitted by the light source, in order to jointly make visible a message placed on a filter of the display (As explained in page 4 and shown on figure 2, the "bulbs 7 and 8" are operated alternately. Examiner construed the combination of the means for supplying power to the "bulbs 7 and 8 and the means for operating the "bulbs 7 and 8" alternately as the means for the modulation.); and

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different symbols are assigned to signals, depending on a state of a switching means performing the switching [pg 4, the means for switching the operation of the "bulbs 7 and 8"].

Maeda does not teach that the display is included in a key.

However, Dreher teaches the concept of including a display in at least one key of a keyboard [col. 1 lines 6-9 and 46-52], wherein the at least one key has a contactor [fig. 2, "switch 20"] adapted to supply a signal representative of an interaction between a user and the key [col. 2 lines 52-57] and a reception device [fig. 3, "microcircuit 30"] receiving signals from the contactor and assigning different symbols to the signals [col. 3 lines 10-17].

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the display of Maeda in at least one key of a keyboard, wherein the at least one key has a contactor adapted to supply a signal representative of an interaction between a user and the key and the reception device receiving signals from the contactor and assigning different symbols to the signals, as taught by Dreher, in order to allow the at least one key to display different symbols without using a liquid crystal display.

6. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda and Dreher as applied to claim 21-26, 28, and 37-38 above, and further in view of U.S. Publication No. 2004/0022047 by Okayasu.

Maeda as modified by Dreher teaches that the light source comprises two light bulbs emitting lights having different colors and the modulator is adapted to control the light emitted by the light bulbs.

Maeda as modified by Dreher does not teach that the light source comprises a light emitting diode having a spectral band of emission that varies according to an electrical

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characteristics of a power signal applied thereto, and the modulator is adapted to modify the electrical characteristics.

However, Okayasu teaches the concept of using a light emitting diode having a spectral band of emission that varies according to an electrical characteristics of a power signal applied thereto [par. (0005)] to output lights having different colors.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a light emitting diode having a spectral band of emission that varies according to an electrical characteristics of a power signal applied thereto as the light emitting means of the key of Maeda as modified by Dreher, in order to reduce the number of components required to display different symbols.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP Publication No. 2004-355368

U.S. Publication No. 2008/0158134

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEOKYUN MOON whose telephone number is (571)272-5552. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 572-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 18, 2010
/Seokyun Moon/
Examiner, Art Unit 2629